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Incommensurability and Property Rights in the Natural Environment¹

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Abstract

Cost-benefit analysis has been criticised on the basis that it cannot compute the value of environmental goods whose value constitutively defies monetary valuation. Two forms of incommensurability make monetary valuation problematic: *constitutive* incommensurability and *quantitative* incommensurability. These pose a threat only to *shadow pricing*, and not the formation of prices in an actual market. Where property rights to environmental goods are appropriately assigned, the prices that form reflect the actual uses persons put them to, given their value commitments. In a real market, the formation of prices does not depend upon the assignment of cardinal values via monetary valuation; rather, the formation of prices is a side effect of the way in which environmental goods are used. A property right gives one the right to reject terms of exchange one deems inappropriate. Where sale of an environmental good is deemed inappropriate, it is kept out of the cash nexus. Incommensurability therefore precludes cost-benefit analysis, but not markets in environmental goods where property rights are appropriately allocated.

Key words: Incommensurability; Cost-benefit analysis; property rights; markets; environmental goods; prices

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Introduction

The use of cost-benefit analysis (CBA) in environmental policy has been criticised on grounds of value incommensurability. Many goods – environmental goods in particular – are said to be incommensurate with monetary valuation. CBA requires that we have monetary values to feed into the analysis; therefore all the goods in question must be monetarily evaluated prior to their consideration. If this valuation necessarily leaves something out or otherwise fails to gauge the goods' value, then the result yielded by CBA will be inadequate.

The arguments levelled against CBA have a common theme: CBA involves the arbitrary imposition of a set of cardinal values upon goods whose value is often incommensurable. This means that CBA has outcomes which do not honour those values, and therefore leave affected parties worse off in a variety of ways, despite the appearance of a Pareto improvement. Here, I argue that allocating property rights in environmental goods to appropriate agents solves this problem. A property right is first and foremost the right to reject proposed terms of exchange *for any reason*. If one deems the terms of exchange inappropriate to the value of the good in question, then one has the right to say 'no' (Schmidtz 2010, p. 79), and their environmental values need not be compromised based on a third party's CBA. Furthermore, I argue that the idea that the market in environmental goods that property rights in them would permit, is not vulnerable to the same kind of objections that befall CBA. It might be thought that marketplaces allocate goods in accordance with their monetary valuation, and that since some environmental goods are incommensurate with monetary valuation, the marketplace will have the same problems as CBA. However this is not the case: the existence of a market in a good does not *require* monetary valuation of that good – prices can form for it without any individual needing to engage in any propositional act of monetary valuation. Moreover, it is not even the case that monetary valuations necessarily *leave out* the intrinsic value of environmental goods in the way CBA does. Those who oppose CBA should therefore embrace property rights in environmental goods, and not be so quick to assume that market-mimicking procedures such as CBA are a moral proxy for a real market.

CBA and its Critics

Many environmental goods are managed and controlled by the state. States and their agencies sometimes have mandates to use environmental goods for things such as nature reserves, public recreation, ecosystem services, or to increase gross domestic product, and this will determine the substantive aspects of the policies they create for managing them. For example, if a body of water is mandated to be used to protect an endangered sea turtle, an agency may conduct a CBA where the set outcome is to foster as many of the sea turtles as possible within a set of budgetary constraints (Aldred 2006, p. 142, Schmitz 2001, pp. 157-159). Increasingly though, state agencies perceive

the economically efficient outcomes of markets and seek to mimic these outcomes through various procedures for creating policies about how the good in question should be used more broadly, not how it should be used *given* a set of specified outcomes, like the preservation of a species. CBA is often used, rather than to determine how to maximise a given end x , to establish what the disposition of the good should be altogether – in other words, to discover what x should be. Rather than using CBA to find the most efficient way of achieving a given end, CBA is used to find the most economically efficient end – under the rubric of promoting economic efficiency more generally.

In order to establish the most economically efficient use of an environmental good, a cardinal value (or *shadow price*) needs to be assigned to each possible use of that good, so as to mimic the price it might have on the market. Shadow prices are ascertained in a number of ways: contingent valuation surveys, for example, gather data about the willingness to pay for the benefits of the different prospective uses of the good, and place this data in the ‘benefits’ column to be weighed against its costs. Alternatively shadow prices can be assigned through projections of the cardinal value of unpriced goods from the real price of its marginal units (where these are priced) or the price of goods local to it, such as the cost of travel to a recreational site, or of property adjacent to that site.

After shadow prices are assigned costs are subtracted from benefits for each prospective use of the good in question, and whichever use has the highest net benefit is then pursued as the most economically efficient end. Where a given use of an environmental good has the outcome of making at least one party better off than they would be under any other use of that good, and no parties are left worse off than their initial position, then a Pareto improvement is achieved. Often though, the complexity and reach of environmental goods means that effecting any change in the use of any given one is going to leave *some* parties worse off. In practice then, a *potential* Pareto improvement is sought. A policy is expected to yield a potential Pareto improvement when benefitted parties can compensate harmed parties, and yet still be in an improved position relative to the status quo ante. The so-called *Kaldor-Hicks* compensation test therefore reveals a policy which will, after compensation is paid, yield a Pareto improvement (Kaldor 1939, Hicks 1981, p. 105). So it is the policy only *in conjunction* with ex post compensation which yields a Pareto improvement (Sen 1987, p. 33).

CBA is frequently criticised on grounds of value incommensurability – indeed it is ‘the single most controversial issue in CBA’ (Pearce 2000, p. 51). The notion of value incommensurability is contested and is often used to denote different ideas. For example, Joseph Raz uses it interchangeably with *incomparability* (1988, pp. 321-365). However I will examine two specific sorts of value incommensurability that do not presuppose incomparability: *constitutive*

incommensurability and (what I refer to as) *quantitative incommensurability*. The two pose different problems for CBA, both of which can be overcome by the property-based solution that I propose. In what follows I sketch out the arguments against CBA from value incommensurability. Here I am only intending to express the criticisms, not necessarily to vindicate them. However for purposes of this discussion, I will take the criticisms to be true. Thereafter I will propose an alternative mechanism for environmental policy that avoids the problems raised by those who take issue with CBA.

Monetary Valuation and the Formation of Prices

Before discussing incommensurability, it is important to note the distinction between monetary valuation (*putting* a price on a good) and the *formation* of a price through actual trade-offs in a real market place. To put a price on a thing is to express how much money one would be willing to part with in exchange for having the relevant good; or, conversely how much money one would have to receive in order to be willing to part with the relevant good. However, a price is never necessarily a measure of any particular person's valuation. It is simply an index of that good's exchangeability among a group of persons who in fact exchange goods of its type. When persons make trade-offs, all that can be inferred about their values is that they value the good gained *more* than the good foregone. This is an ordinal valuation and tells us nothing of the ultimate cardinal value which the person might place on either good. Prices are indices of all the ordinal valuations made across a market and approximate the exchangeability of goods relative to each other – they do not represent any person or group's cardinal valuation of that good (Rothbard 1956, pp. 232-243). When someone pays a price for a good, they are demonstrating a preference for the good over the money they pay, but this in no way expresses a determinate judgement that the good is equal in worth to that sum of money. Indeed they may be willing to make far greater sacrifices for that good than part with that particular sum of cash. If a person is not willing to exchange a good on any terms whatsoever, then that particular good is priceless – it is not for sale. Yet a price could still form for this *type* of good, if not this particular *token*. Others' buying and selling this type of good means that there is a sense in which the token which is not for sale has a 'market value'. But this is merely a manner of speaking. If a good is not for sale, then it cannot be priced as a token. Acts of exchange in themselves can only express ordinal and not cardinal valuations; therefore they do not express a cardinal monetary valuation. They are open-ended both in terms of how the agent values that which is exchanged and how much they value it.

Constitutive Incommensurability

John O'Neill has criticised CBA in environmental policy on grounds that it requires monetary valuation of environmental goods, and these valuations will fail to capture the true value of those goods (O'Neill 1993, 2002, 2007, pp. 21-35, forthcoming, O'Neill *et al.* 2008, pp. 70-88). Certain values, the argument goes, are *constituted* by their defiance of monetary valuation because of the kind of value they are. To directly equate such values with a sum of money is to reveal a failure to understand their true value. Environmental goods often have intrinsic value because relations to them constitute objective forms of human wellbeing, such as relationships to kin and the wider community, or they might form the material basis for shared meanings which underpin cultural and religious ways of life through which individuals are able to conceive of their own wellbeing (O'Neill 1993, pp. 8-24, 2007, pp. 85-89). These goods may therefore be constituted by a refusal to 'put a price on them', and as such are constitutively incommensurate with monetary valuation.

It might be that, even if one can, does, and will make trade-offs between money and environmental goods that have this kind of value, it would be a contradiction of their value to express this in certain ways – namely as a propositional monetary valuation – as this may convey an overly narrow view of their value. Indeed, practical rationality requires that we express our values in the appropriate way (Anderson 1993, p. 18). Respondents to willingness-to-pay surveys often respond with disgust to the idea that they could monetarily evaluate environmental goods, given their intrinsic value (Burgess *et al.* 1998, 2000, O'Neill *et al.* 2008, p. 78).

It is not necessarily the trading off of environmental values, but rather directly equating an environmental goods' value with a cash sum which can undermine our value commitments to them. While one might take a job promotion that pays more money, but which requires one to spend a lot of time away from one's family (thus implying a trade-off rate between family time and money), one might not express the value of time with one's family in these terms – that is, by directly equating their value with the benefits offered by the promotion. Expressing the value of something in monetary terms can imply that one values that thing only *instrumentally*, and that given its mere instrumental value, it is open to sale for the right price. To use the language of markets to describe the value of something, in certain contexts, implies that one values the thing as a *mere* commodity – that is, only as a means to monetary gain (Radin 1987, p. 1859).

One might be willing to pay for a good because one values it intrinsically or one might be willing to sell a good so that one can buy something else of greater intrinsic value (Schmidtz, 2001, 158). But sometimes willingness to buy or sell is a way of expressing that the good in question is only valued instrumentally; as a *mere commodity* whose only valuable use is that it can bring forth other goods that one values (Brennan and Jaworski 2016, pp. 51-59). This implication is a contingent feature of the social meaning of acts of monetary valuation in certain cultural contexts and is not a necessary feature of money as a means of exchange (Frieman 2015, pp. 338-339,

Brennan and Jaworski 2015, 2016, pp. 60-84). This need not to make it any less real: sometimes people really do disrespect things by valuing them only instrumentally, and they express this by putting a price on them.

The claim of constitutive incommensurability is that a good's intrinsic value might be constituted in part by its defiance of monetary valuation – of the act of equating its value to a sum of money. This raises a serious problem for CBA, since it relies on monetary valuation of all goods to be considered in the analysis. However, such shadow prices cannot be assigned where the value people put on environmental goods is constitutively incommensurate with monetary valuation. There may be many environmental outcomes which individuals cannot rationally express the monetary value of in a propositional sense, therefore any values fed into CBA as inputs will fail to capture what is actually valued in these goods. CBA can only rationally calculate benefits by assigning cardinal values to each prospective policy (Chang 1997, Aldred 2006), but if the way in which people value things is at odds with their expressing this value as a cardinal figure, then it will not get included in the CBA.

This is not a merely contingent problem with a particular method of shadow pricing, but a problem with shadow pricing *per se*. By definition it depends upon assigning cardinal values to goods outside of the context of actual trade-offs and thus depends upon propositional reports of valuation. This requires symmetry between the cardinal figures that would emerge as a result of actual trade-offs, and those which agents identify as capturing the extent to which they value the good in question. This symmetry may not be obtained because such reports may be deemed a non-neutral act of valuation which is at odds with the nature of the value in question. Values which cannot be reported in the way necessary for them to be accounted for by CBA do not get counted. The consequence of this is that any Kaldor-Hicks efficient outcome may leave some parties worse off than the status quo ante even after they have been compensated. Since the values forgone cannot be fed into a CBA as inputs, they cannot be accounted for in the output.

Quantitative Incommensurability

There is another form of incommensurability that undermines CBA, which I call quantitative incommensurability. Above I argued that while some goods may defy monetary valuation, they are not *thereby* priceless; some goods however *are* priceless. Some goods are so central to our lives that there is no amount of any other goods that we would be willing to exchange them for. Hence, insofar as money is a means of exchange, these goods are not susceptible to monetary evaluation since they are not susceptible to trade-offs. Laurence Tribe remarked that no one would 'agree to have his arms and legs cut off for any number of desserts' (1972, p. 90). James Griffin suggests this is because the value of dessert diminishes at the margin, and ultimately diminishes in total, as

their number increases (1977, pp. 44-45). There is only a certain number of desserts a person would want to eat each day, and anything beyond that, each dessert becomes less desired, to the point at which the dessert becomes a cost, making one unhealthy and feel ill with no accompanying or sufficiently counterbalancing gustatory pleasure. The same could be said of money: its value certainly diminishes at the margin. So incommensurability may occur between two goods when no amount of one of the goods can ever be equal in value to some finite amount of the other. I call this kind of incommensurability *quantitative* in contrast to *constitutive* because it is consistent with all goods being qualitatively homogenous in terms of value. Having limbs and eating dessert might be valuable for the exact same reason, e. g. their causal relation to subjective pleasure, or their contribution to monistic wellbeing, it is just that desserts are such that no matter how much you multiply them their value will never equal that of having limbs, though they are equal in quality.

A good having a cardinal value implies its exchangeability with other goods; therefore, where a given party would not exchange any amount of good x for good y , they are unable to assign a cardinal value to x . This is independent of the kind of attitude that a cardinal valuation would express; it is simply because they would not trade x for anything else. Such valuations of x cannot be entered into a CBA since CBA can only register cardinal values. Attempts to capture the total value of such goods by multiplying how much it is valued at the margin will also fail to render CBA capable of processing them. A party might be willing to trade off 1% of a natural landscape for £1,000,000, but not willing to trade off the whole of it for £100,000,000 (or any other price), just as someone may rent out a room in their family home, but refuse to sell the family home. Goods that are so central to a person's wellbeing that they would not trade them for anything may nonetheless be tradeable at the margin. What is important though is that these exchanges are not seen as compromising the essential value of the good in question. One does not compromise the essential value one places on a natural landscape by selling 1% of the land, nor does one compromise the value of keeping the family home in the family by renting out one of the rooms to a lodger. The physical objects that comprise the goods can be traded at the margin, but the *value* in question is not compromised at all. Indeed, exchanging marginal units may be a way of positively honouring or augmenting the value of the good as a whole (Schmidtz 2001, pp. 157-159).

For these kinds of goods, then, no kind of marginal analysis can reveal a cardinal value at which the good as a whole would be traded off by the agents that so value it. Therefore arriving at shadow prices for whole goods by adding up the prices of marginal units of it will fail to show its value, and therefore will skew the result of any CBA.

Property Rights as Environmental Governance

What is common to the objections to CBA from incommensurability is that a single cardinal scale of value is used to assess different uses of environmental goods, when often the value of these goods cannot be expressed in these terms. The solution, I suggest, is to assign property rights in environmental goods, so that decisions over their disposition can be made in accordance with the attitudes towards them that cannot be captured in a CBA. When one finds an offer objectionable because it implies one is ‘putting a price on’ the good, or if any offer in exchange for the good will never be worth it, a property right gives one the right to say ‘no’. On the other hand, where trade-offs can be made, the return the owners of these goods consent to will reflect their attitudes toward these goods. They will not be forced to accept a mere sum of cash for the loss of their property if they deem their property to constitute a more important value, or be more valuable than what is being offered in return.

The inhabitants of the Narmada Valley in Madhya Pradesh, India, lost their land when the state government decided to flood it in order to construct the Sardar Sarovar Dam. A letter they wrote to the state government indicated utter incredulity at the idea that they could now be compensated with money for this loss (O’Neill *et al.* 2008, pp. 56-57). Whether or not it was simply in defiance of their environmental value to put a price on their homes, heritage, and cultural sites, or if the price is simply so high it would not be worth the government paying it, if their property rights had been recognised they would not have been left in this situation: they could have stopped the construction on terms they had not consented to. Thus, a real market based on properly recognised property rights does not assume, as does CBA (O’Neill 2007, p. 33), that any loss can be compensated. Therefore, ex post compensation is not legitimate when it is done unilaterally, rather than consensually. Property rights allow their holders to translate their judgements of value into the power to preserve that value, where appropriate. Under a system of robust property rights, withholding of consent becomes a tool to prevent third parties making inappropriate judgements about what is and is not the best use of one’s environment.

Those that argue against CBA on grounds of value incommensurability may object to this solution because of the idea that having private property rights in environmental goods, rather than state or democratic control, will permit a market in these goods to emerge – it will draw them into the cash nexus, so to speak. And this, it is supposed, subordinates the use of environmental goods to cardinal, monetary evaluations, and this is exactly the problem to be resolved. It merely shifts the one doing the CBA from a state agency to a private owner or group of owners.

This line of reasoning – that objections to CBA easily carry over to the marketplace – is too quick: it presumes that the owners of environmental goods (whether they be individuals or groups) only value them instrumentally (as production goods), *and* that their monetary valuations of these

goods will therefore leave out important environmental values. Both of these assumptions are wrong.

Environmental Goods as Production Goods

Even assuming environmental goods are in the hands of those who only value them as production goods, this does not mean that in their monetary valuations of them they cannot take account of intrinsic environmental values which others find in them. Therefore, even when all environmental goods are in the hands of those who only value them instrumentally, their disposition will not be ‘subordinated’ to the cash nexus, but rather that the structure of the cash nexus will be subordinated to their intrinsic values.

Ludwig von Mises writes:

There are things which cannot at all be evaluated in money... The appraisal of an old building must disregard its artistic and historical eminence *as far as these qualities are not a source of proceeds in money or goods*. (2007, p. 215, emphasis added)

However, artistic and historical eminence *can* indeed be ‘a source of proceeds in money or goods’. Where these things are valued by others in and of themselves, this will create demand and affect the price of buildings that instantiate these values. It is through the values of those who value these things intrinsically (as consumer goods) that they can obtain value as production goods. When *A* values an environmental good intrinsically, this increases its instrumental value to its owner *B*, even if *B* does not intrinsically value it in that way. Even to the extent that all environmental goods are owned by those who only value them in monetary terms the fact that others value them in other ways forces the owners to take account of this other kind of valuation.

It might be objected that this requires individuals who value environmental goods in and of themselves to ‘put a price’ on these values; contrarily, it only requires them to *pay* a price. As I say above, paying a price for a thing only implies one values that thing more than the money forgone, while remaining silent on how much more one *would* have been willing to pay – the same does not go for the kind of monetary valuations required of persons in willingness-to-pay surveys. Where an environmental good is constituted by its defiance of monetary valuation, this does not entail that they cannot in fact be priced, it only means that the acts involved in estimating or setting this price might be socially or morally problematic for the agent, given their values and attitudes. A good being priced in accordance with how much it is valued by that agent does not require any particular act of monetary valuation by her. It is perfectly consistent for a person to refuse to say how much money access to a public park is worth to them, whilst being willing to pay more to live in a home

located in proximity to the park. Paying more for a home because of its location enables a price to form for the park as an environmental good, without requiring anyone to express what cardinal value they place on the park.

Constitutive incommensurability therefore does not preclude the possibility of rationally pricing goods through market processes; it only places a barrier to assigning shadow prices to them. The act of assigning cardinal values to things of certain kinds of value might express an attitude toward that good that does not honour the agent's true values, this does not mean that cardinal values for these good cannot form, based upon the trade-offs persons in fact choose to make.

Quantitative incommensurability may however raise a problem if all property rights are given to those who only value these environmental goods as production goods since it is possible that those who own these goods will be able to charge open-endedly high prices as those who value them will be willing to trade *anything* off for them. We will return to this issue below when we consider how to allocate property rights.

Environmental Goods as Consumption Goods

So far I have only discussed how actual market mechanisms based on property rights, rather than the market-mimicking procedure of CBA, do not run into the same problems while assuming the owners of environmental goods all only value them as production goods. However, there is no reason to believe that this would be so; they may just as well value them as consumption goods and therefore not subject them to monetary valuation.

When one owns something, one gets to decide what happens to it. This, crucially, includes the right to *decline* terms of exchange for any reason. Therefore if one values something as a consumption good – one that is incommensurate with monetary valuation – then one does not have to exchange it for anything else, nor can one be forced to accept compensation that does not really compensate, according to the way one values the good. Before a third party can impose any externality upon one's environmental goods, one must consent, and if the compensation offered is inappropriate, then one can decline. If it *is* appropriate – according to one's own scale of value – then one can accept. In cases of constitutive incommensurability, property rights give owners the ability to reject any scale of values they feel to be incommensurate with the environmental value instantiated by the good in question (Pennington 2011, pp. 250-251, 2015, p. 111).

Where the imposition of some externality occurs unilaterally – without the consent of the owner – this is no longer an economic issue but an ethical and legal one. While it is important that the disposition of an environmental good be subject to the consent of its owner, so that no exogenous set of values is imposed upon them, where the environmental good is used without consent, in many cases, the damage is done. The question of what legal procedures ought to follow

and how restitution should be made is a question that goes beyond the scope of this paper. Where externalities are not consented to, depending on the details, it may never be possible to make the victim whole again – they were never asked what it would take to make them accept the externality, and it might have been that they would never have accepted anything in exchange for this harm. The potential for quantitative incommensurability therefore requires robust defence of property rights, either through informal norms or legal coercion, or some combination thereof.

It might be tempting to think that in the context of a marketplace the monetary opportunity cost of not selling one's property, or refusing to permit some use of it by a third party in exchange for compensation, means that one's decision necessarily entails a monetary valuation. To choose an environmental good over another good of a certain cardinal value necessarily places the environmental good on that scale; it implicitly assigns a cardinal value. The existence of prices in environmental goods conceptually compels us to make monetary valuations of such goods, so the thought might go.

However, in order to judge that x is of greater value than cardinal value y , x need not itself be a cardinal value. One can make an *ordinal* judgement regarding the value of x relative to a *cardinal* value. As David Gordon suggests, 'Someone who chooses a noneconomic good over a good with a price has not put a price on the good he chooses. Rather, he prefers the noneconomic good to the good of a given price' (2000, p. 82). As I argue above, this merely reveals a preference for the former over the latter; it does not reveal the determinate strength of that preference, and thus no cardinality is implied.

Privatisation: Prospects and Problems

Above I argued that regardless of who becomes an owner of an environmental good the objections levelled against CBA from *constitutive* incommensurability do not stand against a real free market based on property rights. Therefore, *to that extent*, the way in which environmental goods are taken out of the hands of the state and placed within the hands of private individuals and civil society as their property matters little. Economists often believe that who starts out with which property rights does not matter because whoever values them most will end up with them through Coasian bargaining processes. Under this view all externalities become efficiently internalised and persons adjust their behaviour in accordance with what is most valued over all vis-à-vis the environment (Coase 1960).² So long as property rights are defined and enforced, it is of little concern who 'starts off' with what. Indeed, David Hume's understanding of the virtue of property rights was to protect the stability of possession in order to facilitate cooperation and exchange – the question of the

² Assuming that there are no transaction costs, which, of course, there are (Pennington 2015).

initial distribution was neither here nor there (Hume 1738, III.ii.3, Waldron 1994, Schmidtz 2005, p. 160, 2006, pp. 208-215).

However, there is a concern regarding *quantitative* incommensurabilities. If goods that are so central to persons' wellbeing that they would not trade them off against *anything*, given the opportunity, then it follows that when they do not have a right to access them or otherwise use them in a value-realising manner, then they would be willing to make unlimited trade-offs to do so. Their demand for these goods is infinitely inelastic; owners can charge whatever price they want. This looks as problematic for the same reasons as CBA. In both cases persons and their relationships with environmental goods are subject to the arbitrary impositions of an external scale of values which governs terms of access (if any). It is just that in the case of CBA it is a government agency that imposes the standard which determines terms of use rather than a private owner. Therefore it looks like from the perspective of quantitative incommensurability, the distribution of property rights *does* make a moral difference. What criteria then ought to be used in order to allocate property rights in environmental goods? Whatever it is, it ought to give property rights to those who stand in such a relation to a good such that it is quantitatively incommensurate with any other good that person could be offered (Pennington 2015, p. 114-115).

The criteria proposed for assigning ownership claims by classical liberals like Hugo Grotius (1925) and John Locke (1986), as well as radical anarchists such as Pierre-Joseph Proudhon (1994) and Benjamin Tucker (2005), seem to roughly fulfil this brief. They (and many others) proposed occupancy and use as the criteria for a legitimate property claim in things like land and natural resources.³ These criteria seem to be sufficiently innocuous so as to protect persons who stand in close, valuable relations with environmental goods (through occupancy and use). One develops valuable relationships – whatever they may be – to one's environment through interaction with it. Lockean theorists often refer to 'labour-mixing' as the criteria for an ownership claim – if one mixed one's labour with a resource, one can claim it as one's own. However, the reason labour is a salient activity for assigning property rights is because it is a particularly important kind of use – it indicates that the good in question is valuable to the labourer; that she is subsuming it into her ongoing projects (Sanders 2002, p. 40). The kinds of activities persons engage environmental goods in that constitute their valuable relationships to them seem to be captured by the use and occupancy criterion. Those who are actively occupying, using, or otherwise dependent upon environmental

³ The liberals and the anarchists disagreed, however, on what the sufficient conditions for *abandonment* of property were. Proudhon and Tucker thought abandonment was constituted by cessation of active use and occupancy, whereas Grotius and Locke took property rights to be 'stickier'.

goods, whether that be land, forest, waterways, or specific ecosystem services⁴ are also the one's most likely to value them as consumption goods.

This paradigm of privatisation – of restoring state-controlled environmental goods to their actual users – might be parsed as *socialisation* (Johnson 2007, Richman 2012a, 2012b).⁵ It implies handing control to the relevant sectors of civil society, rather than 'the private sector' qua a sphere of for-profit commodity production. This is importantly different to neoliberal models of privatisation which focus on *selling* state-owned goods. When an environmental good is sold competitively, the winning bidder is likely going to be an incumbent market actor who can mobilise the necessary funds to outbid anyone else and who intends to make that money back through commodifying the good. For example, Nestlé continues to outbid municipal groups to control local water-supplies (Kassam 2016). Under the occupancy and use rule, the local users of water supplies are its natural owners – the state has no right to sell this property out from under them.

This leads us to a potential worry: many environmental goods are ecologically complex and are therefore used and occupied in a number of different ways by different agents. A river might be used by a farmer just to irrigate her field, while others use it for fishing and kayaking – not to mention the myriad ecosystem services it provides others, thereby constituting their 'use' of it. However, instances of ownership are functionally composite and can be broken up and shared by the relevant agents. We need not think of all property rights as instances of 'full liberal ownership'. Ownership can be divided into the constitutive rights of use, exclusion, transfer, etc. (Lewis 1888, Hohfeld 1917, Honoré 1961); moreover, any given environmental good can be subject to spatio-temporally indexed property rights, in a way which protects agents' various ongoing uses of the good, such as easement rights, irrigation rights, and usufructuary rights. (Breaky 2011). The farmer has a right that no one alter the course or chemical content of the water such that it stops irrigating her field, kayakers have an easement right to paddle down the river, and fishermen have a usufructuary right to appropriate the fish they catch.⁶

A more serious problem emerges however where the use of a given environmental good is collective in its nature. Some uses of environmental goods – whether due to their physical constitution or the way in which they are used – are irreducible to individual activities which can be protected by individual rights in the way described above (McKean and Ostrom 1995, p. 6). Thus such goods become 'property on the outside, commons on the inside' (Rose 1998, p. 144) While

⁴ See Walshe (2014) for an account of our natural rights to ecosystem services.

⁵ Here I am only entertaining the idea of allocating property rights in those natural resources that are state controlled and therefore subject to CBA by that state's agencies. Therefore, for the sake of argument, we are not considering reallocating existing private property rights. However, see Rothbard (1969).

⁶ Third parties remain free to use the river to the extent that it does not interfere with these former rights: the occupancy and use criterion places no bar to *non-competing* uses of the good in question by third parties (Fressola 1982, p. 320, n.15).

there is no ontological problem in assigning property rights to a group, rather than to individuals (Long 1996, 1998), the question is raised as to how the good is internally governed. Where property rights are individual, the individual decides how best to deploy her property in accordance with her values. But when the property rights are held in common, and use of the resource is governed by whatever formal or informal rules are endogenous to that activity, there are obstacles that individuals face in realisation of the value which they place upon that good. If one member of the group wants to alter the ongoing use of the commons because she thinks there are better ways of realising its value, or her attitude toward its value has changed, she has to effect this change via the rules which govern its use. This may involve persuading or bargaining with a majority coalition or leader (depending on how the resource is governed). It may be very costly to the individual if not ultimately impossible. Where the farmer decides she wants to use her land in a new way, she does not have to consult the community (so long as she does not violate their property rights), and she is free to deny any terms of contract which others might propose to her regarding the use of her property. Having individual property rights gives one the ability to exit arrangements which are not fitting with one's preferred use of one's property. But when the property one has rights to is a common-pool resource, one cannot exit with one's property; one must exit and leave one's claim to the commons behind, exercise effective voice, or simply put up with the majority or the leader's imposition of an inappropriate set of environmental values. With common-pool resources therefore, the promise of property rights to protect environmental values through consent falls short of what we would ideally wish.

However, it is not clear what better alternative there is once one acknowledges the existence of common-pool resources. So long as there are environmental goods which are used in ways which are irreducible to individual activities, and therefore incapable of individual privatisation, there is no better way to manage them other than through the rules endogenous to the activity itself.⁷ It might be thought that granting a more centralised power, such as a state, with oversight of the common-pool resource might be a way of policing its use. Rather than individuals facing costly exit when the resource is being used in a way ill-fitting with its true value, common-pool resource users could simply be coerced into altering its use in the appropriate way by a superior power, thereby meaning that when bad decisions are made, against the consent of some subset of users, the superior power steps in and exercises voice on their behalf, thereby saving them the costs of exit. However, this merely pushes the problem back another step, what about when the superior power structure makes the wrong decisions? Exit from the overall jurisdiction of that power is going to be even

⁷ Exogenous alteration of the use of common-pool resource so that rights can be individually assigned, where feasible, would give its users powers of exit; however, this would come at the cost of whatever environmental value is realised in its *collective* use. Where the users do not endeavour to do this themselves, one can infer that it is not worth the costs of doing so since they are the ones with the closest relationship with the environmental good in question.

more costly than exiting from a single common-pool resource. While exiting from a common-pool resource requires abandonment of one's rights to that good, at least the exiting agents have the prospect of using other environmental goods with different forms of governance. Where a superior power structure regulates or controls all common-pool resources within an area, the set of environmental goods affected by bad decisions at the top is bigger, thus there is less choice after exit, and therefore a greater cost of exit (Kurrild-Klitgaard 2010).

In order to make exit from a common-pool resource as least costly as possible, devolving the centres of power over common-pool resources need to be as localised as possible. Given that these resources are collectively used, rather than severally used, it follows that they are the most local level at which decision-making ought to occur (Pennington 2013).

Property rights are not a panacea of environmental governance; they do however overcome the problem caused by CBA by requiring the consent of those with the closest relationship with the goods. While with certain kinds of resources, namely common-pool resources, individuals' consent may sometimes be overridden, the prospect of – admittedly costly – exit provides as great a check to bad decisions regarding the use of those resources as can be expected from any alternative form of governance.

Conclusion

Fair objections raised against market-mimicking procedures are often unfairly raised against markets themselves. However, in the case of environmental policy, the problems raised for one market-mimicking procedure, in this case CBA, are not problems for a real market-based approach to environmental governance, so long as we take property rights seriously. Markets do not require us to make monetary valuations of environmental goods which are constitutively incommensurate with monetary valuation. Furthermore, where the allocation of property rights is sensitive to which quantitatively incommensurable goods are valued by whom, a free market in these goods is not problematic since no one can be forced to sell anything they do not want to sell. Rather than social and moral attitudes becoming 'subordinated' to the market, the market is rather subordinated to the social and moral attitudes of those who stand in the relevant valuable relationships with environmental goods.

Those who believe that environmental goods exhibit an important kind of value which renders those goods incommensurate with monetary valuation ought not therefore shy away from the idea of markets in environmental goods, so long as those markets are based on robust property rights. In the name of environmental values, let us replace market-mimicking policies such as CBA with a *real* market.

References

- Aldred, J. 2006. Incommensurability and Monetary Valuation. *Land Economics*, 82, 141-161.
- Anderson, E. S. 1993. *Value in Ethics and Economics*. Cambridge: Harvard University Press.
- Breakey, H. 2011. Two Concepts of Property: Ownership of Things and Property in Activities. *The Philosophical Forum*, 42, 239-265.
- Brennan, J. and Jaworski, P.M. 2015. Markets without Symbolic Limits. *Ethics*, 125, 1053-1077.
- Brennan, J. and Jaworski, P.M. 2016. *Markets Without Limits: Moral Virtues and Commercial Interests*. New York: Routledge.
- Burgess, J.L, Clark, J. and Harrison, C.M., 1995. Valuing nature: what lies behind contingent valuation surveys. Paper, Dept. of Geography, University College London.
- Burgess, J.L., Clark, J., and Harrison, C.M. 1998. Respondents' evaluations of a CV survey: a case study based on economic valuation of the wildlife enhancement scheme, Pevensey levels in East Sussex. *Area*, 30, 19-27.
- Burgess, J.L., Clark, J., and Harrison, C.M. 2000. "I struggled with this money business": Respondents' perspectives on contingent evaluation. *Ecological Economics*, 33, 45-62.
- Chang, R. 1997. Introduction. In: R. Chang, ed. *Incommensurability, Incomparability, and Practical Reason*. Cambridge: Harvard University Press.
- Coase, R.H. 1960. The Problem of Social Cost. *The Journal of Law & Economics*, 3, 1-44.
- Freiman, C. 2015. Cost-Benefit Analysis and the Value of Environmental Goods. *The Georgetown Journal of Law & Public Policy*, 13, 337-347.
- Fressola, A. 1981. Liberty and Property: Reflections on the Right of Appropriation in the State of Nature. *American Philosophical Quarterly*, 18, 634-644.
- Gordon, D. 2000. Review of *The Market: Ethics, Knowledge, and Politics*, by John O'Neill, *The Quarterly Journal of Austrian Economics*, 3: 81-83.
- Griffin, J. 1977. Are There Incommensurable Values? *Philosophy & Public Affairs*, 7, 39-59.
- Grotius, H. 1925. *De Jure Belli ac Pacis Libri Tres*, vol. 2, trans. F. W. Kelsey. Oxford: Clarendon Press. (First Published, 1625.)
- Hicks, J.R. 1981. *Wealth and Welfare: Vol 1 of Collected Essays in Economic Theory*. Oxford: Blackwell.
- Hohfeld, W.N. 1917. Fundamental Legal Conceptions as Applied in Judicial Reasoning. Reprinted in *Yale Law Faculty Scholarship Series*, paper 4378.
- Honoré, A.M. 1961. Ownership. In: A. Guest, ed. *Oxford Essays in Jurisprudence*. London: Oxford University Press.
- Hume, D. 1738. *Treatise of Human Nature*. Reprinted in his *The Philosophical Works of David Hume*, vol. 2. Edinburgh: Black & Tait, 1826.

- Johnson, C.W. 2007. Sprachkritik: “Privatization.” *Rad Geek People’s Daily* [online]. November 8. Reprinted as Two Words on “Privatization” In: G. Chartier and C.W. Johnson, eds. *Markets Not Capitalism: Individualist Anarchism Against Bosses, Inequality, Corporate Power, and Structural Poverty*. New York: Minor Compositions, 2010.
- Kaldor, N. 1939. Welfare Propositions of Economics and Interpersonal Comparisons of Utility. *The Economic Journal*, 49, 549-552.
- Kurrild-Klitgaard, P. 2010. Exit, collective action, and polycentric political systems. *Public Choice*, 143, 339-352.
- Lewis, J. 1888. *Law of Eminent Domain*. Chicago: Callaghan & Co.
- Locke, J. 1986. *Two Treatise of Government*, 1986. London: Everyman’s Library. (First published 1689.)
- Long, R.T. 1996. In Defense of Public Space. *Formulations* [online], 3 (3). Available from <http://freenation.org/a/f3312.html> [Accessed 4 Oct 2016].
- Long, R.T. 1998. A Plea for Public Property. *Formulations* [online], 5 (3). Available from <http://www.freenation.org/a/f5311.html> [Accessed 4 Oct 2016].
- McKean, M. and Ostrom, E. 1995. Common Property Regimes in the Forest: Just a Relic from the Past? *Unasylva*, 46, 3-15.
- Mises, L. von. 2007. *Human Action*. Indianapolis: Liberty Fund.
- O’Neill, J. 1993. *Ecology, Policy and Politics: Human Well-Being and the Natural World*. London: Routledge.
- O’Neill, J. 2002. Deliberative Democracy and Environmental Policy. In: B. A. Minteer and B. P. Taylor, eds. *Democracy and the Claims of Nature: Critical Perspectives for a New Century*. Oxford: Rowman & Littlefield.
- O’Neill, J. 2007. *Markets, Deliberation and Environment*. Abingdon: Routledge.
- O’Neill, J. Forthcoming. Pluralism and Incommensurability. In: C. L. Spash, ed. *Routledge Handbook of Ecological Economics*. Abingdon: Routledge.
- O’Neill, J., Holland, A., and Light, A. 2008. *Environmental Values*. London: Routledge.
- Pearce, D. 2000. Cost-Benefit Analysis and Environmental Policy. In: D. Helm, ed. *Environmental Policy*. Oxford: Oxford University Press.
- Pennington, M. 2011. *Robust Political Economy: Classical Liberalism and the Future of Public Policy*. Cheltenham: Edward Elgar.
- Pennington, M. 2013. Elinor Ostrom and the Robust Political Economy of Common-Pool Resources. *Journal of Institutional Economics*, 9, 449-468.
- Pennington, M. 2015. Coase on Property Rights and the Political Economy of Environmental Protection. In: C. Veljanovski, ed. *Forever Contemporary: The Economics of Ronald Coase*.

London: The Institute of Economic Affairs.

- Proudhon, P-J. 1994. *What is Property?* trans. D. R. Kelley & B. G. Smith. Cambridge: Cambridge University Press. (First published 1840.)
- Radin, M.J. 1987. Market-Inalienability. *Harvard Law Review*, 100, 1849-1937.
- Raz, J. 1988. *The Morality of Freedom*. Oxford: Clarendon Press.
- Richman, S. 2012a. From State to Society. *Cato Unbound* [online], October 1. Available from <http://www.cato-unbound.org/2012/10/01/sheldon-richman/state-society> [Accessed 3 Oct 2016].
- Richman, S. 2012b. No Substitute for Socialization. *Cato Unbound* [online], October 11. Available from <http://www.cato-unbound.org/2012/10/11/sheldon-richman/no-substitute-socialization> [Accessed 3 Oct 2016].
- Rose, C.M. 1998. The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems. *Minnesota Law Review*, 83, 129-182.
- Rothbard, M.N. 1956. Toward a Reconstruction of Utility and Welfare Economics. In: M. Sennholz, ed. *On Freedom and Free Enterprise: Essays in Honor of Ludwig von Mises*. Princeton: D. Van Nostrand.
- Rothbard, M.N. 1969. Confiscation and the Homestead Principle. *Libertarian Forum*, 1: 3-4.
- Sanders, J.T. 2002. Projects and Property. In: D. Schmidtz, ed. *Robert Nozick*. Cambridge: Cambridge University Press.
- Schmidtz, D. 2001. A Place For Cost-Benefit Analysis. *Philosophical Issues*, 11, 148-171.
- Schmidtz, D. 2005. History and Pattern. *Social Philosophy & Policy*, 22, 148-177.
- Schmidtz, D. 2006. *Elements of Justice*. Cambridge: Cambridge University Press.
- Schmidtz, D. 2010. Property and Justice. *Social Philosophy & Policy*, 27, 79-100.
- Sen, A. 1987. *On Ethics and Economics*. Oxford: Blackwell.
- Kassam, A. 2016. Canadian town steams over Nestlé bid to control local spring water well. *The Guardian*, 24 September. Available from <https://www.theguardian.com/world/2016/sep/24/canada-nestle-water-well-bid-centre-wellington> [Accessed 3 Oct 2016].
- Tucker, B.R. 2005. *Instead of a Book By A Man Too Busy to Write One: A Fragmentary Exposition of Philosophical Anarchism*, 2nd ed.. New York: Adamant Media Corporation. (First published 1897.)
- Tribe, L.H. 1972. Policy Science: Analysis or Ideology? *Philosophy & Public Affairs*, 2, 66-110.
- Waldron, J. 1994. The Advantages and Difficulties of the Humean Theory of Property. *Social Philosophy & Policy*, 11, 85-123.
- Walshe, G. 2014. Green Libertarianism. *Ethical Theory and Moral Practice*, 17, 955-970.

